

CLAIMS

What is claimed is:

1. A reconfigurable pallet that supports a structure, comprising:
a pallet base; and
a plurality of modular stanchions that are adhesively secured to said pallet base and that are selectively positionable along x and y axes relative to a top surface of said pallet base, said modular stanchions each including a support element that has a height along a z axis that is transverse to said x and y axes, said support element supporting said structure.
2. The reconfigurable pallet of claim 1 wherein said x and y axes are parallel to a top surface of said pallet base and said z axis is perpendicular to said x and y axes.
3. The reconfigurable pallet of claim 1 wherein said support element is movable along said z axis to adjust said height.
4. The reconfigurable pallet of claim 3 wherein each of said modular stanchions further comprises a support cylinder that is selectively actuated to move said support element to a position along said z axis.
5. The reconfigurable pallet of claim 4 further comprising a hydraulic pump in fluid communication with said support cylinder and operable to adjust a hydraulic

pressure within said support cylinder to move said support element along said z axis.

6. The reconfigurable pallet of claim 1 wherein each of said modular stanchions is adhered to said pallet base by an adhesive layer.

7. The reconfigurable pallet of claim 1 wherein each of said modular stanchions is adhesively bonded to said pallet base using a bonding pack.

8. The reconfigurable pallet of claim 7 wherein said bonding pack includes a stanchion base and a shim.

9. The reconfigurable pallet of claim 8 wherein said shim is adhesively attached to said stanchion base using a quick de-bonding adhesive and said shim is adhesively attached to said pallet base using a quick bonding adhesive.

10. A pallet that is configurable to support first structure and reconfigurable to support a second structure, comprising:

a pallet base; and

a plurality of modular stanchions that are adhesively secured to said pallet base and that are selectively positionable along x and y axes relative to a top surface of said pallet base, said modular stanchions each including a support element that is has a height defined along a z axis transverse to said x and y axes, said support element having a first position to support said first structure and having a second position to support said second structure.

11. The pallet of claim 10 wherein said support element is movable along said z axis to adjust said height.

12. The pallet of claim 10 wherein each of said modular stanchions further comprises a support cylinder that is selectively actuated to move said support element to a position along said z axis.

13. The pallet of claim 12 further comprising a hydraulic pump in fluid communication with said support cylinder and operable to adjust a hydraulic pressure within said support cylinder to move said support element along said z axis.

14. The pallet of claim 10 wherein each of said modular stanchions is adhered to said pallet base by an adhesive layer.

15. The pallet of claim 10 wherein each of said modular stanchions is adhesively bonded to said pallet base using a bonding pack.

16. The pallet of claim 15 wherein said bonding pack includes a stanchion base and a shim.

17. The pallet of claim 16 wherein said shim is adhesively attached to said stanchion base using a quick de-bonding adhesive and said shim is adhesively attached to said pallet base using a quick bonding adhesive.

18. A method of assembling a reconfigurable pallet that supports multiple structures, comprising:

- applying an adhesive to a modular stanchion;
- securing said modular stanchion to a pallet base using said adhesive;
- de-bonding said modular stanchion from said pallet base after using said reconfigurable pallet to support a first structure;
- reconfiguring said reconfigurable pallet to support a second structure.

19. The method of claim 18 further comprising aligning said modular stanchion on x and y coordinates along said pallet base using a template.

20. The method of claim 18 further comprising removing said template after said modular stanchion is secured to said base.

21. The method of claim 18 further comprising attaching a bonding pack to said modular stanchion, wherein said bonding pack is adhesively secured to said pallet base.

22. The method of claim 21 further comprising adhesively securing a shim to a stanchion base of said modular stanchion, said stanchion base and said shim defining said bonding pack.

23. The method of claim 22 wherein said shim is adhesively secured to said pallet base to secure said modular stanchion to said pallet base.

24. The method of claim 18 wherein said step of de-bonding comprises applying an electric current across said modular stanchion and said pallet base.

25. An assembly line for assembling a product, comprising:
- a plurality of operation stages; and
 - a pallet that supports a base structure of said product and carries said base structure between said operating stages, comprising:
 - a pallet base;
 - a stanchion base that is adhesively secured to said pallet base and that is positionable along x and y axes relative to a top surface of said pallet base; and
 - a support element that is supported on said stanchion base and that has a height transverse to said x and y axes along a z axis, said support element having a first position to support said base structure.
26. The assembly line of claim 25 wherein said support element is movable along said z axis to adjust said height.
27. The assembly line of claim 25 wherein said pallet further comprises a support cylinder that is supported by said stanchion base and that is selectively actuated to move said support element to a position along said z axis.
28. The assembly line of claim 27 further comprising a hydraulic pump in fluid communication with said support cylinder and operable to adjust a hydraulic pressure within said support cylinder to move said support element along said z axis.

29. The assembly line of claim 25 wherein said modular stanchion is adhered to said pallet base by an adhesive layer.

30. The assembly line of claim 25 wherein said modular stanchion is adhesively bonded to said pallet base using a bonding pack.

31. The assembly line of claim 30 wherein said bonding pack includes a stanchion base and a shim.

32. The assembly line of claim 31 wherein said shim is adhesively attached to said stanchion base using a quick de-bonding adhesive and said shim is adhesively attached to said pallet base using a quick bonding adhesive.

33. The assembly line of claim 25 wherein said modular stanchion is located along said x and y axis using a template.